Remarks

The amendment made on page 8, line 23, corrects the journal's title. The author, year of publication, article title and partial journal title would enable one skilled in the art to determine the correct citation of the document.

The amendment made on page 20, line 3, corrects the journal's title. The author, year of publication, article title and partial journal title would enable one skilled in the art to determine the correct citation of the document.

The amendment made on page page 31, line 27 corrects the page number of the journal citation. The author, journal title, volume number and year were cited correctly and from this information the citation may be easily found.

Conclusion

The Examiner is invited to contact Applicants' Representatives at the below-listed telephone number, if there are any questions regarding this Preliminary Amendment or if prosecution of this application may be assisted thereby.

CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper is being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Attn: P.O. Box 2327, Arlington, VA 22202, on this 15th day of May, 2002.

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May 15, 2002
Date

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Appendix A

Specification Amendments with Notations to Indicate Changes Made
Applicant: Salman Baig et al.
Serial No.: 10/018,936
Confirmation No.: 8674
Filed: October 19, 2001
For: CYSTEINE PROTEASE AND INHIBITORS FOR PREVENTION AND TREATMENT OF NEUROCYSTICERCOSIS

Amendments to the following paragraphs are indicated by underlining what has been added and bracketing what has been deleted. Additionally, all amendments have been shaded.

Page 8, lines 20-23

The proteolytic activity of the newly identified proteinase of the human parasite, *T. solium*, appears to be essentially undistinguishable from the demonstrated activity of the analogous protein of the mouse parasite, *T. crassiceps* (White et al., [J.]Mol. Biochem. Parasitol., 85:243-253 (1997).

Page 20, lines 1-17

Hundreds of publications have now reported the efficacy of DNA vaccines in small and large animal models of infectious diseases, cancer and autoimmune diseases (J. Donnelly et al., Annu. Rev. Immunol. 15:617 (1997)). Vaccine dosages for humans can be readily extended from the murine models by one skilled in the art of genetic immunization, and a substantial literature on genetic immunization of humans is now available to the skilled practitioner. For example, Wang et al. (Science 282:476-480 (1998)) vaccinated humans with plasmid DNA encoding a malaria protein, and the same group has developed a plan for manufacturing and testing the efficacy of a multigene *Plasmodium falciparum* liver-stage DNA vaccine in humans (Hoffman et al., Immunol. Cell Biol. 75:376 (1997)). In general, the polynucleotide vaccine of the invention is administered in dosages that contain the smallest amount of polynucleotide necessary for effective immunization. It is typically administered to human

subjects in dosages containing about 20 μg to about 2500 μg plasmid DNA; in some instances 500 μg or more of plasmid DNA may be indicated. Typically the vaccine is administered in two or more injections at time intervals, for example at four week intervals.

Page 31, line 22 to page 32, line 10

In the end, *Taenia* cysts may have become sensitized to a balance where a certain level of IgG in the host serum was actually beneficial metabolically, but too much could be destructive, immunologically. Perhaps there is a baseline physiological IgG level which is beneficial (IgG uptake in *T. crassiceps* cysts is shown to be saturable at physiological serum levels (Siebert et al., Exp. Parasitol. 48:164-174 (1979))). Thus, *Taenia* cysts may have a need for a certain level of IgGs for immune exploitation, but are harmed by concentration beyond this. Perhaps, this is why the cysteine protease, which is highly antigenic (Example III), is not located on the cyst wall surface, but is rather *within* the cyst wall. Consequently, the cysts may have evolved molecular mechanisms to control this balance. For example, a secretory *Taenia* glycoprotein (Villa et al., Parisotol. 112:561-570 (1996)) appears to modulate the shift from a host T helper 1 (Th1) cellular mediated immune response to a humoral T helper 2 response (Th2), favoring increased antibody production which may be used by the parasites for nutrition (this shift may also aid the parasites in avoiding a destructive Th1 cellular response, for which they have no defenses). Alternatively, diminished secretion of these molecules may slow down the shift from Th1 to Th2 allowing the parasites another means to control their immunological environment (and thus, physiological IgG levels).